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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,966	DISCENZO ET AL.	
	Examiner	Art Unit	
	Zoila E. Cabrera	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-17 and 19-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10, 12-17, and 19-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Final Rejection

1. Claims 1-10, 12-17, and 19-47 are remained for consideration.

Claims 11 and 18 have been cancelled.

Claims 48-49 have been added.

The rejection of claims 1-10, 12-17, and 19-49 is maintained.

Response to Arguments

2. Applicant's arguments filed May 21, 2008 have been fully considered but they are not persuasive.

Regarding the rejection under 101 Applicant argues on Page 11,

> Thus, the claims generate a useful, concrete and tangible result of optimizing industrial business operations by selecting a desired operating point as an optimum performance point within an allowable range of operation about a system set point according to performance characteristic associated with at least one of the machines and controlling at least one machine according to the desired operating point. In view of at least the foregoing, withdrawal of this rejection is respectfully requested.

Examiner respectfully responds:

Regarding claim 38, the 101 rejection is maintained since the claim is directed to a thought, a computation or manipulated data that may be interpreted to be abstract in nature. Please note that "A data packet.. comprising: a data field" is claimed. A "data field" is not a useful, concrete and tangible result.

Regarding claim 38 Applicant argues on Page 12-13,

Nowhere Bryant et al. teaches or suggests a desired operating point being selected within an allowable range of operation about a system set point according to performance characteristics associated with at least one of the machines. Therefore, Bryant et al. fails to disclose "every aspect of the claimed invention" and for at least these reasons, the rejection of amended claim 38 should be withdrawn..

Examiner disagrees because Bryant discloses that If R is less or equal than C, the machine will perform the desired job within the desired precision ([0119]-[0120]). Therefore the desired operating point corresponds to the desired precision and the allowable range of operation is if R is less or equal than C. Bryant discloses that R depends of the desired speed at which the machine does the job, the desired loads, the complexity of the job, and the desired accuracy at which the machine should do the job ([0119]).

Regarding the rejection under 103 Applicant further argues on Page 14,

Applicant's claimed invention provides systems and methods for controlling a motorized system in order to achieve set point operation as well as to optimize one or more performance characteristics associated with the system while operating within specified operating constraints. Specifically, independent claim 1 recites a system that facilitates optimizing industrial business operations, including a prognostics engine that infers at least one future state of the operations based in part on the received data and includes: a plurality of intelligent software agents" that serve as proxies for at least the subset of machines, for modeling and representing interactions with one another, and for facilitating convergence on modification and control of the subset of machines, for efficiently optimizing industrial business operations. Gotou et al. and Bryant et al., taken alone or in combination, do not disclose or suggest these novel features of applicant's claimed invention. Gotou et al. relates to a system for monitoring the status of abnormality and lifetime of machine components such as a bearing having rolling elements. The system includes a plurality of determining units each connected with a plurality of sensors and a control means

connected with the determining units. The Examiner concedes that Gotou et al. does not teach all limitations recited in the subject independent claims, and attempts to cure the deficiencies of Gotou et al. with Bryant et al. However, Bryant et al. merely relates to a method of diagnosing state of a system in which a measured signal is compared to an expected signal, the comparison is used to perform the diagnosis and the repeated diagnosis over the time yield a prognosis of the system; and this reference does not make up for the aforementioned deficiencies of Gotou et al.

Examiner responds:

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Furthermore, Gotou discloses a plurality of intelligent software agents that serve as proxies for at least the subset of machines, for modeling and representing interactions with one another, and for facilitating convergence on modification and control of the subset of machines, for efficiently optimizing industrial business operations (Page 2 [0013]; Page 5, [0051]-[0052]; Fig. 26-27, i.e., intelligent software reads on the diagnosis module). Gotou clearly discloses monitoring machine components and determining an abnormality of such components of a machine. Bryant clearly discloses a model-based machine diagnostics and prognositics (Abstract; [0122]). Therefore, a prognosis of components of a machine using intelligent software are taught by Gotou and Bryant.

Applicant argues on Page 15,

However Gotou et al. does not contemplate selecting a desired operating point within an allowable range of operation about a system set point according to performance characteristics associated with at least one of the machines and controlling at least one machine according to the desired operating point. Through this feature, the claimed subject matter facilitates correlating efficiency information related to the components of the system, along with such efficiency information related to components of a larger process or system of which the system is a part, in order to select the desired operating point for optimization of overall system efficiency. For example, the pump may be operated within the allowable range about the set point in order to achieve global optimization of one or more performance characteristics of a larger process or system of which the pump system is a part. Thus the components (e.g., pump, motor, drive) of the system may be operated at less than optimal efficiency in order to allow or facilitate operation of such a larger process at optimal efficiency.

Examiner respectfully disagrees because Gotou discloses selecting a desired operating point within an allowable range of operation about a system set point according to performance characteristics associated with at least one of the machines; and controlling at least one machine according to the desired operating point. ([0020], i.e., deviation from a predefined range results in an abnormality. Please note that any point between the predefined range corresponds to a normal system operation and any deviation from such range corresponds to an abnormal system therefore there is a control aspect with respect to the desired operating point; [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the control means**). Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

Applicant further argues on Page 16,

Gotou et al. provides for only a machine comprising a plurality of the machine components which are of a type provided with rolling elements and determining if a machine component contains an abnormality and fails to teach or suggest correlating at least two of motor efficiency information, pump efficiency information, and motor drive efficiency information in order to derive correlated system efficiency information and selecting the desired operating point as the optimum efficiency point within the allowable range of operation according to the correlated system efficiency information.

Examiner disagrees because Gotou discloses that machine components can be monitored and diagnosed and further discloses that the machine herein referred to is intended to encompass a stand-alone machine and a production or servicing facility where a plurality of machines are installed. Gotou discloses that machine components may be installed in a steel manufacturing plant, paper manufacturing industry, aircrafts, railways, automobiles or others, see Par. [0208]). Please note that motors and motor drives are machines used in the mentioned manufacturing plants.

Gotou discloses selecting the desired operating point comprises: correlating **at least two** of motor efficiency information, pump efficiency information, and motor drive efficiency information in order to derive correlated system efficiency information (Page 18, [0208]); and selecting the desired operating point as the optimum efficiency point within the allowable range of operation according to the correlated system efficiency information ([0020], i.e., deviation from a predefined range results in an abnormality. Please note that any point between the predefined range corresponds to a normal system operation and any deviation from such range corresponds to an abnormal system therefore there is a control aspect with respect to the desired operating point; [0026]-[0027], i.e., By allowing the control means to have, **in addition to** the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the**

control means). Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable. The control means has the capability of collecting the results from each determining unit and changing the set-up conditions for each determining unit ([0025]-[0027]). Therefore a correlation of at least two of the different parameters being monitored has to take place.

Claim Objections

3. Claims 21-22, 24, 27-28 are objected to because of the following informalities: The claims depend on cancelled claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 38 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring phenomenon) since it fails to produce a useful, concrete and tangible result. Specifically, the claimed subject matter does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having a real world value rather

than a result that may be interpreted to be abstract in nature, as, for example, a thought, a computation or manipulated data. More specifically, the claimed subject matter provides for that "A data packet.. comprising: a data field" A "data field" is not a useful, concrete and tangible result.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 38 is rejected under 35 U.S.C. 102(e) as being anticipated by Bryant et al. (US 2004/0236450 A1).

As for claim 38, Bryant discloses:

38. A data packet adapted to be transmitted between at least two computer processes, comprising: a data field comprising information relating to regulating operation of a business component based at least upon diagnostic data derived by a classifier performing a probabilistic analysis for future state of at least a subset of the operations concerning a machine (Fig. 1; [0114]-[0122][; Abstract; [0125]-[0132]; [0092]; [0093]; [0107]); and a desired operating point selected within an allowable range of operation about a system set point according to

performance characteristics associated with at least one of the machines (Bryant discloses that If R is less or equal than C, the machine will perform the desired job within the desired precision, see Par. [0119]-[0120]). Therefore the desired operating point corresponds to the desired precision and the allowable range of operation is if R is less or equal than C. Bryant discloses that R depends of the desired speed at which the machine does the job, the desired loads, the complexity of the job, and the desired accuracy at which the machine should do the job ([0119]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10, 12-17, 19-37, 39-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotou et al. (US 2002/0013635 A1) in view of Bryant et al. (US 2004/0236450 A1).

Regarding claims 1-37, 39-47, Gotou discloses:

1. A system that optimizes industrial business operations, comprising: a component that receives data relating to state(s) of a subset of machines that are part of the industrial business operations Page 1, [0011]-[0012]); a diagnostic

engine diagnose at least a subset of the operations based in part on the received data, the diagnostic engine comprising a plurality of intelligent software agents that serve as proxies for at least the subset of machines, for modeling and representing interactions with one another, and for facilitating convergence on modification and control of the subset of machines, for efficiently optimizing industrial business operations (Page 2 [0013]; Page 5, [0051]-[0052]; and an optimization component that selects a desired operating point as an optimum performance point within an allowable range of operation about a system set point according to performance characteristic associated with at least one of the machines and controls at least one machine according to the desired operating point ([0020], i.e., deviation from a predefined range results in an abnormality; [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the control means**).Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

2. The system of claim 1, further comprising a host computer that executes the diagnostic engine (Fig. 1, element 17).

3. The system of claim 1, the diagnostic engine comprising a classifier (Page 6

[0060]-[0061]; Page 20, [0239]).

4. The system of claim 1, at least a subset of the machines comprising diagnostic components that collaborate in a distributed manner (Page 3, [0029]-[0030]).

5. The system of claim 1, at least one of the diagnostics components performs diagnosis for a cluster of machines (Page 1, [0011]-[0012]).

6. The system of claim 1, the diagnosis engine and the diagnostic components collaborating to improve operating rate of at least a subset of the machines (Page 2, [0013]).

7. The system of claim 3, the classifier performs a probabilistic analysis in connection with the inference ([02030]).

8. The system of claim 1, at least a subset of the machines and/or components are represented by intelligent agents (Fig. 10, element 4).

9. The system of claim 1, at least a subset of the machines and/or components are physically located remote from one another (Fig. 21).

10. A method that optimizes assets in an industrial automation environment, comprising: receiving and analyzing in real-time data relating to diagnoses of

operational aspects of a subset of machines that are part of the industrial automation system; modeling and representing interactions of the subset of machines for facilitating convergence on modification and control of the subset of machines; (Figs. 26-27, element 114); modifying asset utilization in the industrial automation system based at least in part as a function of the analyzed diagnostic machine data (Page 6 [0064]); selecting a desired operating point within an allowable range of operation about a system set point according to performance characteristics associated with at least one of the machines; and controlling at least one machine according to the desired operating point. ([0020], i.e., deviation from a predefined range results in an abnormality; [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the control means**).Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

12. The method of claim 10, further comprising employing an options based analysis in connection with asset management (Page 3, [0029]-[0032]).

13. The method of claim 11, further comprising obtaining the system setpoint and the allowable range of operation from a user (Page 2, [0020]).

14. The method of claim 11, wherein selecting the desired operating point comprises: correlating at least two of motor efficiency information, pump efficiency information, and motor drive efficiency information in order to derive correlated system efficiency information (Page 18, [0208]); and selecting the desired operating point as the optimum efficiency point within the allowable range of operation according to the correlated system efficiency information (page 2, [0020]).

15. The method of claim 14, wherein controlling the system according to the desired operating point comprises providing a motor speed signal to the motor drive according to the desired operating point (Page 1, [0002]).

16. The method of claim 14, further comprising obtaining at least one of the efficiency information, the allowable range, and the system setpoint from a user (Page 2, [0020]).

17. The method of claim 14, further comprising obtaining at least one of the efficiency information, the allowable range, and the system setpoint from a host computer via a network (page 2, [0020]).

19. The method of claim 17, wherein the at least one of the efficiency information, the allowable range, and the system setpoint is obtained via wireless

communications(Page 2, [0020]); Fig. 28).

20. The method of claim 14, further comprising obtaining at least a portion of one of the efficiency information, the allowable range, and the system setpoint from prior operation of the system (Page 6, [0057]).

21. The method of claim 11, wherein selecting the desired operating point comprises: correlating component performance information associated with at least two components in the system in order to derive correlated system performance information (Page 17, [0204]); and selecting the desired operating point as the optimum performance point within the allowable range of operation according to the correlated system performance information (Page 2, [0020]).

22. The method of claim 21, wherein controlling the system according to the desired operating point comprises providing a setpoint to a controller associated with the system according to the desired operating point (Page 2, [0020]).

23. The method of claim 12, further comprising automatically ordering an asset via the Internet (Page 6, [0057]).

As for claims 24-27, the same citations applied to claims 17-20 above apply as well for these claism.

28. The method of claim 21, wherein the component performance information comprises at least one of life cycle cost information, efficiency information, life expectancy information, safety information, emissions information, operational cost information, MTBF information, noise information, and vibration information (Page 6, [0059]).

29. The method of claim 28, wherein the system comprises a motorized pump system for pumping fluid, having an electric motor operatively coupled with a pump, and a motor drive providing electrical power to the motor, wherein the component performance information comprises efficiency information related to at least two of the motor, the pump, and the motor drive, and wherein the correlated system performance information comprises cost information related to the system operational cost per unit of fluid pumped (Page 18, [0208]).

30. The method of claim 10, wherein the system comprises a motorized pump system having an electric motor operatively coupled with a pump, and a motor drive providing electrical power to the motor, and wherein the performance characteristics associated with a plurality of components in the system comprises life expectancies of at least two of the motor, the pump, and the motor drive (Page 18, [0208]).

31. The method of claim 10, wherein the system comprises a motorized pump

system having an electric motor operatively coupled with a pump, and a motor drive providing electrical power to the motor, and wherein the performance characteristics associated with a plurality of components in the system comprises cost of operation associated with at least two of the motor, the pump, and the motor drive (Page 18, [0208]).

32. The method of claim 10, wherein selecting the desired operating point comprises measuring at least one process variable from a sensor associated with the system (Page 6, [0058]-[0059]).

As for claim 33, the same citations applied to claim 10 above apply as well for this claim.
As for claims 34-35, the same citations applied to claim 1 above apply as well for these claims.

36. A computer readable medium storing the components of claim 1 (Fig. 24, element 119).

37. A computer readable medium having stored thereon computer executable instructions for performing the method of claim 10 (Fig. 24, element 119).

39. An industrial automation layout methodology, comprising: analyzing machine

related diagnostic data (Fig. 24, element 101); analyzing business concern data (Fig. 24, PROPER REPLACEMENT BUDGET); analyzing business objective data(PROPER STOCK MANAGEMENT); and specifying machine acquisition based at least in part upon the analyses (Page 6, [0057]; Page 7, [0075]); obtaining a system set point, an allowable range of operation and machine performance information ([0020], i.e., deviation from a predefined range results in an abnormality); selecting a desired operating point within the allowable range of operation about the system set point according to performance characteristics associated with at least one of the machines; and controlling at least one machine according to the desired operating point. [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the control means**).Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

40. A computer-implemented method for ordering parts in an industrial automation environment, comprising: automatically receiving an analyzing data relating to a diagnosis of a machine (Fig. 24, element 101); automatically inferring a failure period for at least one part of the machine (Page 6, [0057]); and

automatically ordering a replacement for the at least one part prior to the inferred failure period (Page 6, [0057]); correlating component performance information associated with one ore more components in the machine in order to derive correlated process performance information ([0025]; [0208]); and selecting a desired operating point as an optimum performance point within a allowable range of operation according to the correlated process performance information ([0020], i.e., deviation from a predefined range results in an abnormality; [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the control means**).Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

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41. The method of claim 40 further comprising employing an options based scheme in connection with machine management (Page 7, [0075]).

42. The method of claim 40 further comprising employing an options based scheme in connection with decision support (Page 20, [0239]).

43. The method of claim 40 further comprising employing an options based

scheme in connection with asset optimization (page 20, [0239]).

44. A system that facilitates optimizing industrial business operations, comprising: a component that receives data relating to state of a subset of machines that are part of the industrial business operations (Fig. 24, element 101); and a diagnostics engine that diagnose at least a subset of the operations based in part on the received data, the diagnostics engine comprising a plurality of intelligent software agents that serve as proxies for at least the subset of machines, for modeling and representing interactions with one another, and for facilitating convergence on modification and control of the subset of machines (Page 2 [0013]; Page 5, [0051]-[0052]; Fig. 10); and an optimization component that selects a desired operating point as an optimum performance point within an allowable range of operation about a system set point according to performance characteristic associated with at least one of the machines and controls at least one machine according to the desired operating point ([0020], i.e., deviation from a predefined range results in an abnormality; [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the determining units is capable of changing the process set-up condition according to the command from the control means**).Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

45. The system of claim 44, the diagnostic engine infers future business conditions (Page 6, [0057]).

46. The system of claim 45, the future business conditions comprising at least one of future raw materials and future product demand (Page 6, [0057]).

47. A system that facilitates optimizing industrial business operations, comprising: a component that receives data relating to state of a that is part of the industrial business operations (Fig. 24, element 101); and a diagnostics engine that diagnose at least a subset of the operations based in part on the received data, the diagnostics engine comprising a plurality of intelligent software agents for modeling and representing interactions between the subset of machines, for efficiently optimizing industrial business operations (Page 2 [0013]; Page 5, [0051]-[0052]; Fig. 10); and an optimization component that selects a desired operating point as an optimum performance point within an allowable range of operation about a system set point according to performance characteristic associated with at least one of the machines and controls at least one machine according to the desired operating point ([0020], i.e., deviation from a predefined range results in an abnormality; [0026]-[0027], i.e., By allowing the control means to have, in addition to the capability of collecting the results of determination (or abnormality), a capability of commanding setting and changing of the process set-up condition for each of the determining units and **each of the**

determining units is capable of changing the process set-up condition according to the command from the control means).Please note that the process set-up condition must be between an allowable range otherwise the system would be uncontrollable.

48. (New) The system of claim 1, wherein the optimization component correlates component performance information associated with **one ore more** components in the system comprising **at least a** pump, a motor and a motor drive in order to derive correlated process performance information ([0208], i.e. the machine herein referred to is intended to encompass a stand-alone machine and a production or servicing facility where a plurality of machines are installed). Please note that motors and motor drives are machines used in a production facility).

49. (New) The system of claim 48, wherein the optimization component selects the desired operating point as the optimum performance point within the allowable range of operation according to the correlated process performance information ([0023]-[0027], i.e., the control means has to correlate the collection of the results of determination performed by the plural determining units).

Gotou discloses the limitations of claims 1-37 and 39-47 above, however, Gotou does not disclose a prognostic engine for analyzing data relating to prognoses of operational aspects of machines or that infers future state of operations of the machine. However, Bryant discloses a model-based machine diagnostics and prognotics system for diagnosing the operational health of a system and to forecast future health ([0003]; Abstract; [0011]-[0012]; [0092]-

[0093]; [0122], i.e., a prognosis may predict the failure of a part). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the system of Gotou with the diagnostics and prognostics system of Bryant because it would provide an improved system for forecasting the future operational health of a system ([0003]; Abstract; [0011]-[0012]).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zoila E. Cabrera whose telephone number is 571-272-3738. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez, can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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